

What is claimed is:

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B1
1. A transmitting/receiving switch comprising:
    - an antenna terminal connected to an antenna;
    - a transmission terminal connected to a transmission circuit;
    - a reception terminal connected to a reception circuit;
    - a first switching element that turns on or off the connection between said antenna terminal and said transmission terminal;
    - a second switching element that turns on or off the connection between said antenna terminal and said reception terminal; and
    - filtering means inserted between said first switching element and said antenna terminal,wherein said filtering means (1) attenuates harmonic contents in the transmission signal and (2) has phase characteristics that increases the impedance from the node between said antenna terminal and said second switching element toward said transmission terminal in the reception frequency band.
  2. The transmitting/receiving switch as set forth in claim 1, wherein said filtering means comprises:
    - a filter that attenuates harmonic contents in said transmission signal; and

a phase-shift circuit that performs phase adjustment on the basis of said phase characteristics according to the amount of phase shift caused by said filter.

6.

3. The transmitting/receiving switch as set forth in claim 1, wherein said first switching element comprises a diode and said second switching element comprises a diode and a quarter-wave line.

3.

4. The transmitting/receiving switch as set forth in claim 2, wherein said filter comprises a low pass filter that attenuates the harmonic contents in the transmission signal.

4.

5. The transmitting/receiving switch as recited in claim 2, wherein said phase-shift circuit comprises either (1) a strip line or (2) a lumped constant circuit having a coil and/or capacitor.

5.

6. The transmitting/receiving switch as set forth in claim 2, wherein said first switching element comprises a diode and said second switching element comprises a diode and a quarter-wave line.

7.

7. A portable terminal unit comprising:  
an antenna for radio transmission and radio reception;

a transmitting/receiving switch as recited in claim 1 that switches transmission lines through which signals flow during said radio transmission or radio reception;

a transmission circuit connected to said transmission terminal of said transmitting/receiving switch; and

a reception circuit connected to said reception terminal of said transmitting/receiving switch.

ADD  
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C-ADD  
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